

Listing of Claims:

1. (Currently Amended) A microscopic image capture apparatus, comprising:

a low magnification optical system and a high magnification optical system;

5 a macro image capture unit which captures an image of wide-angle view of an entire observing slide by the low magnification optical system;

10 a sample image area extraction unit which extracts a sample image area in which a sample image exists from the image of wide-angle view captured by the macro image capture unit;

15 a height coordinate acquisition position setting unit which automatically sets a plurality of positions in an XY ~~direction~~ plane over the sample image area extracted by said sample image area extraction unit ~~in~~ at each of which a height coordinate Z is acquired;

a replacing unit which replaces the low magnification optical system with the high magnification optical system;

20 a coordinate read unit which reads a height coordinate of a focal point position of the high magnification optical system in each of the positions in the XY ~~direction~~ plane set by said height coordinate acquisition position setting unit;

a focal point adjusted position computation unit which computes an adjusted position of a focal point in an arbitrary position in the sample image area using height coordinate data read by said coordinate read unit over the sample image area; and

a sample travel unit which transfers a height of a sample to the adjusted focal position computed by the focal point adjusted position computation unit following horizontal traverse of the sample;

~~wherein said height coordinate acquisition position setting unit respectively sets, as each of the positions in which the height coordinate Z is acquired, a different grid point positioned in an area including the sample image from among grid points of sections obtained by setting a rectangular sample area which bounds the sample image area and dividing the set rectangular sample area at predetermined intervals in grid form~~

wherein said height coordinate acquisition position setting unit sets a sample area as a bounding rectangle that circumscribes the sample image area, divides the rectangular sample area at predetermined intervals in grid form to obtain a plurality of grid points, and sets grid points that include the sample as the plurality of positions in the XY plane at each of which the height coordinate Z is acquired.

2. (Previously Presented) The apparatus according to claim 1, wherein said coordinate read unit performs autofocus processing with the sample horizontally traveled to a set position, and reads a height position of said sample travel unit after completion of the autofocus processing as the height coordinate.

Claims 3-11 (Canceled).